DOCUMENT RESUME

ED 199 507 CE 028 318

TITLE	Bilingual Skills Training Program. Barbering/Cosmetology. Module 10.0: Circulatory System.
INSTITUTION	Northern New Mexico Community Coll., El Rito.
PUB DATE	[80]
NOTE	53p.; For related documents see CE 028 291.
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Adult Vocational Education; Anatomy; *Barbers; Behavioral Objectives; *Bilingual Education; Blood Circulation; *Cardiovascular System; *Cosmetologists; Cosmetology; Human Body; Individualized Instruction; Learning Activities; Learning Modules; Physiology; Postsecondary Education; Pretests Posttests; Second Language Learning; Service Occupations; *Spanish; Trade and Industrial Education; *Vocabulary Development

ABSTRACT

This module on the circulatory or vascular system is the tenth of ten (CE 028 308-318) in the barbering/cosmetology course of a bilingual skills training program. (A Vocabulary Development Workbook for modules 6-10 is available as CE 028 313.) The course is designed to furnish theoretical and laboratory experience. Module objectives are for students to develop trade-related Spanish/English vocabulary, to identify and describe parts and functions of the blood-vascular and lymph-vascular systems, to explain the composition and function of blood, to explain and trace the circulation of blood, and to name and locate arteries and veins of the head, face, neck, and arms. Contents include list of module objectives; pretest; six sections on (1) circulatory system, (2) blood-vascular system, (3) blood, (4) blood circulation, (5) arteries and veins, and (6) lymph-vascular system; posttest; and English/Spanish vocabulary list. Each section is organized into this format: instructions, vocabulary, and concepts (statements or questions to direct reading) presented in English and Spanish; readings; and worksheets to evaluate comprehension of the trade-related reading material. (Readings in modules 1-5 are in both English and Spanish.) Worksheets also cover these areas: vocabulary, definitions, word attack skills, writing skills, spelling, and application of terminology to the trade area. (YLB)

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ED199507

BILINGUAL SKILLS TRAINING PROGRAM
BARBERING/COSMETOLOGY

MODULE 10.C

C I R C U L A T O R Y S Y S T E M

CE 028 318

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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I. PURPOSE

This module is to:

1. Assist students in developing trade-related vocabulary.

2. Facilitate the learning of the trade through reading information sheets, vocabulary lists and language exercises.

3. Provide student with individual check lists for individual progress.

II. INRODUCTION

Cosmetology and Barbering require the student to follow a defined theoretical course of study as well as acquire practical knowledge in the respective trade. Due to the limited amount of time allowed for theory and the difficulty of the technical vocabulary found in the reading, the student often needs additional help in this area. Students in above trades are required to pass the State Board Examination before practicing their trade. To succeed in passing this exam and to be better equipped for the job, the student must be able to function in the oral and written communication skills and utilize the technical vocabulary of their trade. This module is structured to provide for individual needs of the students so that they may progress at their pace in the academic or theoretical area. A simple coding system is utilized to facilitate the student use.

III. ACTIVITIES

Because each module is geared for individualized instruction it is important to assess the individual needs of the students. A pre-test is administered to students before they begin working with a module. Instructions are given orally in Spanish and English.

Instructions, vocabulary and concepts in each module are written in Spanish and English so as to explain the purpose of each reading. There is a reading for each objective presented in the module. The reading is referred to as an information sheet. This sheet is designed to provide the student with reading material incorporating the technical vocabulary that is needed in the trade skill area. The gradation of reading is from simple to more complex. Thus the information sheet facilitates the learning process in the theoretical course of study. Each information sheet is followed by a series of diversified work sheets directly checking for comprehension of the reading material. Other items covered in these work sheets are: vocabulary, definitions, word attack skills, writing skills, spelling and application of terminology to the trade area.

Oral language development exercises directed by the instructor constantly reinforce the concepts presented. Students have an opportunity to utilize and develop the technical vocabulary needed in their trade by interaction among themselves, the instructor and tutors. The Bilingual dimension is specifically directed at concept and vocabulary development.

The students are directed to utilize supplementary materials available through the Learning Resource Center to reinforce each area as they progress in the module. Audio visuals are utilized to introduce subject matter. They are also accessible to the students to be used on an individual basis.

IV. EVALUATION

The students are evaluated by the instructors as to their progress in language and in the course content area through the pre-test, work sheets, check list and a post test. Individual student profiles and folders are kept on record to check on student progress at all times. Oral development skills are assessed individually.

Students go through the following process in utilizing the modules:

Pre-test (Students scoring 85% or below must complete the entire module. Those scoring above 85% may go on to the next module).

Reading of instruction sheet
Information sheet
Series of written and oral exercises
Oral evaluation
Post test (oral and written)
Recycling, if needed (Students scoring 85% or below on post-test are recycled through module in designated weak areas. See coding system.)

MODULE OUTLINE

10.0 The Circulatory (Vascular) System

- 10.1 The Circulatory System
- 10.2 The Blood-Vascular System
- 10.3 Blood
- 10.4 Blood Circulation
- 10.5 Arteries and Veins
- 10.6 Lymph-Vascular System

STUDENT OBJECTIVES

Upon completion of this module the students will be able to:

10.1 Identify and define vocabulary related to the circulatory system

10.2 Identify and describe the parts and functions of the blood-vascular system

10.3 Explain the composition and function of blood

10.4 Explain and trace the circulation of blood

10.5 Name and locate the arteries and veins of the head, face, neck and arms

10.6 Name and explain the parts and function of the lymph-vascular system

PRE-TEST

1. What are the divisions of the circulatory system?

2. Why is it important for you to understand the circulatory system?

3. Name the four chambers of the heart.

4. What are blood vessels?

5. What is the composition of blood?

6. What is blood plasma?

7. What are the two types of blood circulation?

8. Explain the pulmonary circulation.

9. How many divisions are there in the carotid artery?

10. Name the five subdivisions of the carotid external artery.

11. What is the composition of the lymph-vascular system?

12. What is lymph?

Instructions:

In the following information sheet you will read about the circulatory system. Study the following list of words carefully so that you will understand the information better.

Instrucciones:

En la siguiente página de información vas a leer del sistema circulatorio. Estudia la lista de palabras cuidadosamente para que puedas entender la información mejor.

Vocabulary

Angiology - study of blood and lymph vessels
Angiología - estudio de la sangre y de vasos linfáticos

Vascular - pertaining to vessels
Vascular - perteneciente a los vasos.

Lymph - substance that protects body against disease
Linfa - substancia que proteje al cuerpo contra enfermedades.

Remember the following questions as you read the information.
Recuerda las siguiente preguntas al leer la información.

1. Why must you understand the circulatory system?
   ¿Por qué debes entender el sistema circulatorio?

2. What are the two divisions of the circulatory system?
   ¿Cuáles son las dos divisiones del sistema circulatorio?

3. What is angiology?
   ¿Qué es angiología?

The Circulatory System

1. By now you should have studied about the other systems of the body. As you may know it is very important that you know and understand these systems. In this module you will read about the circulatory system. As mentioned before, it is important to understand the systems, but why is the circulatory system important? The reason is simple; the circulatory system is important because it nourishes the entire body. For your purpose, it is important because it nourishes the hair, skin and nails.

2. Now that you know why it is important let's learn the technical parts of the circulatory or vascular system. The circulatory or vascular system has two (2) divisions; the blood-vascular and the lymph vascular systems. Now, the study of the structure and function of the blood and lymph (circulatory system) vessels is called angiology.

3. The blood-vascular system is composed of the heart and blood vessels and its purpose is to circulate the blood throughout the entire body.

4. The lymph-vascular system is composed of lymph glands and lymph vessels and its purpose is to circulate lymph.

5. Now that you have finished this reading complete the work sheets that follow. If you need assistance, contact the instructor or tutor.

Find The Answer

1. The most important reason for you to understand the Circulatory System is;

   A. It nourishes the hair only.
   B. It nourishes the hair, nails and skin.
   C. It fights bacteria.

2. The words in paragraph 2 meaning "how it is made" refer to _____.

3. The words in paragraph 3 "is composed" refer to _____. _____.

4. The story does not say so, but it makes you think that;

   A. The Circulatory System is simple.
   B. There are three divisions of the Circulatory System.
   C. The blood is circulated by the blood-vascular system.

5. Angiology is the study of the structure and function of the lymph.

   Yes No Does not say

6. On the whole, this story is about;

   A. The heart
   B. The blood-vascular system.
   C. The Circulatory System.

7. What is another name for Circulatory System?

   A. Lymph-vascular
   B. Blood vascular
   C. Vascular

Use the words below to complete the following sentences.

Circulatory	Angiology
Vascular	Divisions
Lymph	
Blood	

1. The _____vascular system is composed of lymph glands and lymph vessels.

2. The study of the structure and function of blood and lymph vessels is _____.

3. The circulatory system has two _____ __.

4. Another name for circulatory system is _____system.

5. The _____system nourishes the hair, nails and skin.

6. The heart and blood vessels are parts of the _____ vascular system.

Match the following:

1. _____Circulatory System	A. Study of structure and function of blood and lymph.
2. _____Blood-vascular	B. Circulates lymph.
3. _____Lymph-vascular	C. Composed of heart and blood vessels.
4. _____Angiology	D. Vascular system.

True or False

____1. The circulatory system is important because it supplies nourishment to the entire body.

_____2. The circulatory system is important to you because it supplies nourishment to the hair, nails and skin.

_____3. The lymph-vascular system is also called blood vascular system.

_____4. Angiology is the study of the structure and function of blood and lymph vessels.

_____5. The lymph-vascular system circulates lymph.

_____6. The blood-vascular system circulates lymph.

_____7. The blood-vascular system consists of the heart and blood vessels.

_____8. The purpose of the blood-vascular system is to circulate blood.

_____9. Vascular system is another name for circulatory system.

_____10. The circulatory or vascular system has two divisions.

Instructions:

In the following information sheet you will read about the parts and functions of the blood-vascular system. Study the following list of words so that you will understand the information better.

Instrucciones:

En la siguiente página de información vas a leer de las partes y funciones del sistema vascular de sangre. Estudia la lista de palabras para que entiendas la información mejor.

Vocabulary

Pericardium - membrane that covers and protects the heart
Pericardio - bolsa membrana que cubre y proteje el corazón

Auricle - (atrium) upper heart chamber
Aurícula - cámara del corazón

Ventricle - lower heart chamber
Ventrículo - cámara de abajo del corazón

Artery - vessel that receives pure blood from the heart
Arteria - vaso que recibe sangre pura del corazón

Capillary - connects small arteries to veins
Capilar - conecta arterias pequeñas con venas

Vein - vessel that carries blood to the heart
Vena - vaso que lleva sangre al corazón

Remember the following questions as you read the information.
Recuerda las siguientes preguntas al leer la información.

1. What is pericardium?
   ¿Qué es pericardio?

2. What is an auricle?
   ¿Qué es un aurícula?

3. What is a ventricle?
   ¿Qué es un ventrículo?

4. What is an artery?
   ¿Qué es un arteria?

5. What is a capillary?
   ¿Qué es un capilar?

6. What is a vein?
   ¿Qué es una vena?

The Blood-Vascular System

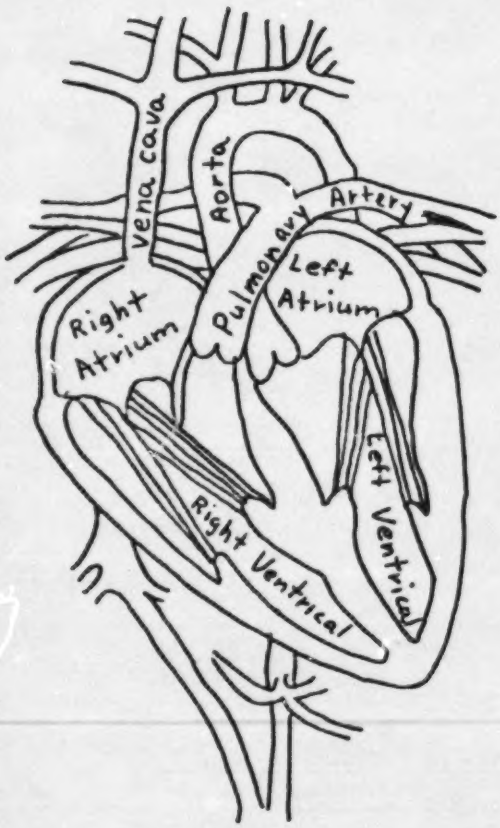
1. Do you remember the parts and purpose of the blood vascular system? If you don't remember, go back to the first reading and review. As mentioned before, this reading will be on the blood-vascular system and its parts and function. The purpose of this system is to circulate the blood. The heart, as you know, is the pump that circulates the blood, and the blood vessels are the ones that carry the blood from the heart to the entire body and back to the heart.

2. The heart is a cone-shaped organ. It is about the size of a fist and is located in the chest cavity. The heart is enclosed in a membrane called the pericardium. The heart beat is regulated by the vagus nerves. The normal heart beat of an adult is 72 to 80 times per minute. The inside of the heart has four chambers and four valves. The upper chambers are called the right atrium and the left atrium. These chambers are thin-walled. The bottom chambers are called the right ventrical and the left ventrical. The valves allow the blood to flow only in one direction.

3. The second part of the blood-vascular system is the blood vessels. The blood vessels are called arteries, capillaries and veins. The arteries are thick walled and they carry pure blood to the capillaries. The main artery is called the aorta. The capillaries are small thin walled vessels that connect the small arteries to the veins. The capillaries nourish the body tissues through the thin walls and also eliminate waste. The veins are also thin walled. They contain a cup-like valve that prevents

the back flow of blood. The veins carry impure blood from the capillaries back to the heart.

4. By now you should know about the parts of the blood-vascular system. The next reading will be on the blood circulation. There is also a diagram that will help you learn the location of the parts of the heart. Be sure to study the diagram.



The Heart

Closed

Cup-Like Valve

Open

Find The Answers

1. What is the purpose of the blood-vascular system.

   A. Circulate the blood.
   B. Circulate the body.
   C. Circulate the lymph.

2. The words in paragraph 1 which means "said before" is _____.

3. The words "is enclosed" in paragraph 2 refer to _____.

4. The story does not say so, but it makes you think that;

   A. The lymph-vascular system is very important.
   B. The blood-vascular system is very important.
   C. None of the above.

5. The heart is enclosed by the pericardium.

   Yes No Does not say

6. On the whole, this story is about;

   A. The heart
   B. The blood vessels.
   C. Both A and B.

7. The heart pumps the blood from the

   A. Heart to the body.
   B. Body to the heart.
   C. Heart to the body and back to the heart.

Circle the correct answer.

1. The heart has four valves and four

   A. Atriums B. Chambers C. Ventricals

2. The heart is enclosed in a membrane called the

   A. Aorta B. Ventrical C. Pericardium

3. Pure blood is carried by the

   A. Arteries B. Capillaries C. Veins

4. The main artery is the

   A. Ventrical B. Pulmonary C. Aorta

5. The normal heart beat of an adult is

   A. 70-80 B. 72-80 C. 74-82

6. The blood-vascular system is made up of the heart and

   A. Pericardium B. Chambers C. Blood vessels

7. The capillaries connect the small arteries to the

   A. Ventrical B. Aorta C. Veins

8. The heart is the size of a

   A. Fist B. Chest C. Ball

9. The nerve that helps regulate the heart beat is the

   A. Pericardium B. Atrium C. Vagus

10. Impure blood is carried by the

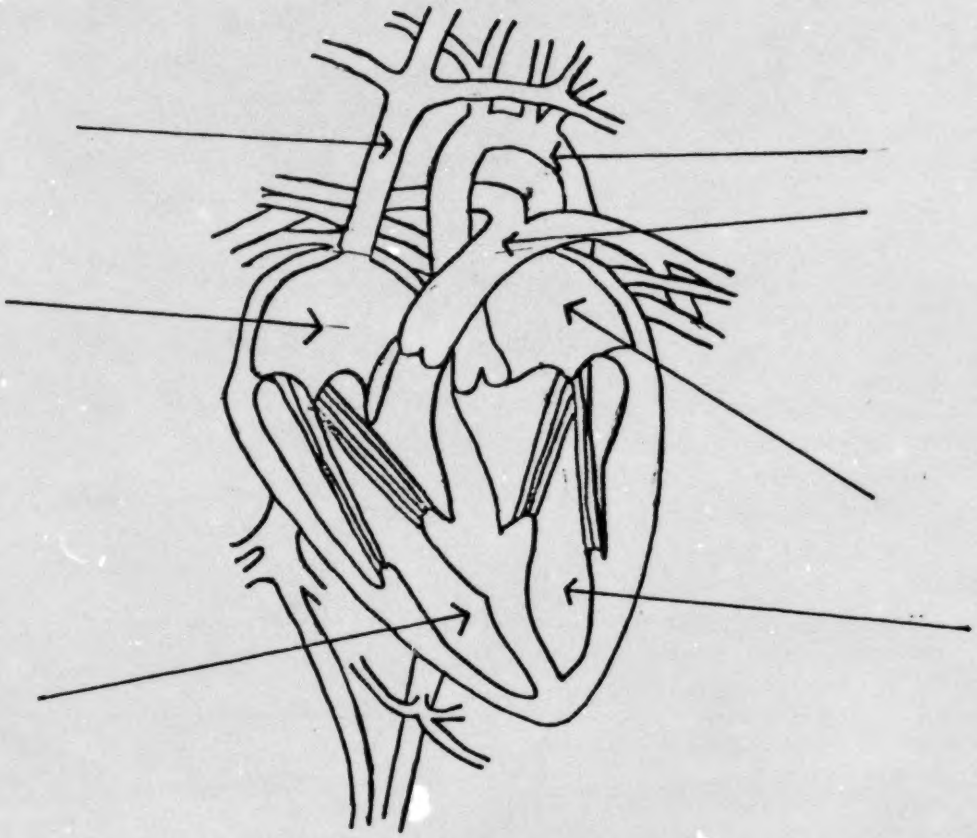
   A. Capillaries B. Veins C. Aorta

Match the following:

_____1. Perciardium	A. Carry pure blood.
_____2. Right atrium (auricle)	B. Membrane that encloses heart.
_____3. Left ventrical	C. Connect small arteries to veins.
_____4. Right ventrical	D. Upper right heart chamber.
_____5. Left atrium (auricle)	E. Cone-shaped organ.
_____6. Arteries	F. Main artery
_____7. Veins	G. Lower left heart chamber.
_____8. Capillaries	H. Carry impure blood.
_____9. Heart	I. Lower right heart chamber.
_____10. Aorta	J. Upper left heart chamber.

Fill in the blanks.

p__ri__ar__i__m	v__n__r__c__l
a__ri__m	v__g__s
__ein	ca__i__l__ry
__o__ta	c__a__b__rs
__r__er__	__e__s__ls



Use the following words to identify the parts of the heart:

Aorta
Pulmonary Artery
Left Atrium (auricle)
Right Atrium (auricle)
Left Ventricle
Vena Cava
Right Ventricle

Instructions: 10.3

In the following information sheet you will read about the composition and function of blood. There is a vocabulary list that will help you understand the information better. Be sure to study the vocabulary list.

Instrucciones:

En la siguiente página de información vas a leer de la composición y función de la sangre. También hay una lista de vocabulario que te ayudará a entender la información mejor. Estudia la lista de vocabulario cuidadosamente.

Vocabulary

Plasma - liquid part of blood.
Plasma - la parte líquida de la sangre.

Red corpuscles - carry oxygen to body and carbon dioxide to heart.
Corpúsculos rojos - transportan oxígeno para el cuerpo y dióxido de carbono para el corazón.

White corpuscles - protects body against bacteria.
Corpúsculo blanco - proteje al cuerpo contra bacteria.

Hemoglobin - coloring matter in blood.
Hemoglobina - materia colorante de la sangre.

Remember the following questions as you read the information.
Recuerda las siguiente preguntas al leer la información.

1. What is the color of blood in arteries?
   ¿Qué es el color de la sangre en las arterias?

2. What is the color of blood in the veins?
   ¿Qué es el color de la sangre en las venas?

3. What is the composition of blood?
   ¿Qué es la composición de la sangre?

4. What are red and white corpuscles?
   ¿Qué son corpúsculos rojos y blancos?

5. What are the functions of blood?
   ¿Cuáles son las funciones de la sangre?

Blood

1. By now you should have a good understanding of what the blood-vascular system is composed of. In this reading you will read about the blood.

2. The blood is a nourishing liquid that circulates throughout the body. It maintains a temperature of 98.6 degrees. There are usually from 8 to 10 pints of blood in an adult and also from 1/2 to 2/3 of the blood is in the skin. The color of blood in the arteries varies from bright red to scarlet and dark red to crimson in the veins. The only exception is the pulmonary artery and pulmonary vein where the blood is dark red to crimson and bright red to scarlet respectively.

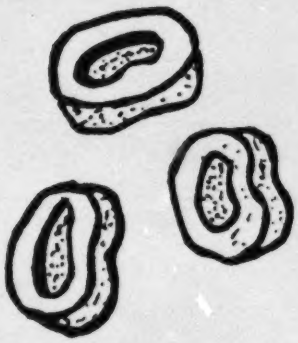
3. The blood is made up of plasma, red corpuscles, white corpuscles and blood platelets. The plasma is straw-like in color and is the liquid part of the blood. The plasma contains red and white corpuscles and platelets. The plasma is made from food and water taken into the body. The plasma makes up about 2/3 of the blood.

4. The red corpuscles (erythrocytes) are formed in the red bone marrow and the cells lining the capillaries. The red corpuscles contain a substance called hemoglobin. The purpose of the red corpuscles is to carry oxygen from the lungs to the body cells and then to carry carbon dioxide to the lungs. The shape of these corpuscles is like a cone.

5. The white corpuscles (leucocytes) are larger, colorless and change their shape. The white corpuscles are produced in the spleen, lymph glands and the yellow bone marrow. The main purpose of these corpuscles is to fight bacteria.

6. The blood platelets are colorless and irregularly shaped. They are produced by the bone marrow and the main role is in clotting the blood. The chief functions of the blood are:

1. Carry water, oxygen, food and secretions to the body.
2. Carry away carbon dioxide and wastes.
3. Equalize body temperature.
4. Protect body from harmful bacteria.
5. Coagulate or clot the blood.



Red Corpuscles

White Corpuscles

Platelets

Circle the correct answer.

1. The blood maintains a temperature of

   A. 96.8 B. 98.8 C. 98.6

2. From 1/2 to 2/3 of the blood is in the

   A. Head B. Neck C. Skin

3. The blood is made up of red corpuscles, white corpuscles, plasma and;

   A. Vessels B. Platelets C. Erythrocytes

4. Plasma makes up about _____ of the blood.

   A. 1/2 B. 1/4 C. 2/3

5. Another name for red corpuscles is;

   A. Erythrocytes B. Leucocytes C. Platelets

6. Another name for white corpuscles is;

   A. Platelets B. Erythrocytes C. Leucocytes

7. Red corpuscles contain a substance called;

   A. Plasma B. Pulmonary C. Hemoglobin

8. Platelets are produced in the;

   A. Bone marrow B. Plasma C. Lymph

9. The main role of platelets is in;

   A. Clotting B. Removing waste C. Fighting bacteria

10. The blood has _____ chief functions.

    A. Five B. Three C. Four

Circle the correctly spelled word.

1.	blaod	blood	blod
2.	pulmonary	palmunary	pulmunery
3.	plesma	plassma	plasma
4.	erythrocytes	eritrocites	erytrocites
5.	hemoglobin	henoglobin	hemagolbin
6.	skarlet	scarlet	scarlat
7.	corpasules	corpusals	corpuscles
8.	carben	carbin	carbon
9.	dioxide	dyoxyde	dioxyde
10.	vain	vein	vean
11.	aretery	artary	artery
12.	leucocytes	lucocites	luecocytes
13.	capalaries	capillaries	capilaries

Answer the following:

1. What is the color of blood in each of the following:

   arteries _____
   veins _____
   pulmonary veins _____
   pulmonary artery _____

2. What is blood made up of?

3. What is the purpose of red blood cells?

4. What is the main purpose of white corpuscles?

5. What is the main function of platelets?

6. Describe everything you know about Plasma.

7. What are erythrocytes and leucocytes?

Find The Answer

1. The color of blood in the pulmonary vein is

   A. Bright red to scarlet
   B. Dark red to crimson
   C. Straw like

2. The word in paragraph 2 which means "control" is _____.

3. The words "made up of plasma" in paragraph 3 refer to _____

4. The reading does not say so, but it makes you think that;

   A. Blood is not very important.
   B. Platelets fight bacteria.
   C. Red corpuscles carry oxygen.

5. Red corpuscles contain a substance called hemoglobin.

   Yes No Does not say

6. On the whole, this story is about;

   A. Red and white corpuscles.
   B. Platelets and plasma.
   C. Both A and B.

7. What are two other names for red and white corpuscles.

   A. Hemoglobin - capillaries
   B. Plasma - platelets
   C. Erythrocytes - leucocytes

Instructions:

In the following information sheet you will read about how the blood circulates. There is also a vocabulary list that will help you understand the information better.

Instrucciones:

En la siguiente página de información vas a leer de la circulación de la sangre. También hay una lista de vocabulario que te ayudará a entender la información mejor.

Vocabulary

Pulmonary - pertaining to the lungs.
Pulmonar - perteniciente a los pulmones.

Systemic - pertaining to the entire body.
Systemático - perteniciente a todo el cuerpo.

Remember the following questions as you read the information.
Recuerda las siguiente preguntas al leer la información.

1. What is the pulmonary circulation?
   ¿Qué es la circulación pulmonaria?

2. What is the systemic circulation?
   ¿Qué es la circulación sistemática?

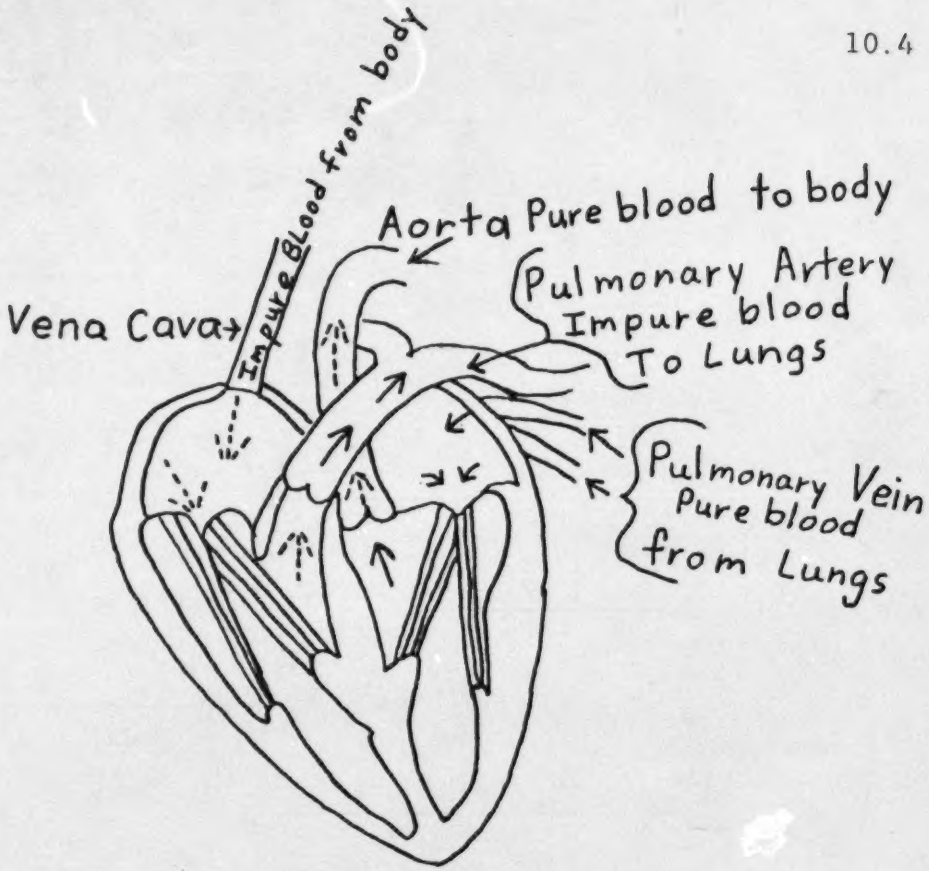
Blood Circulation

1. There are two systems that are responsible for circulating the blood. The two systems are the pulmonary circulation and the general or systemic circulation. The pulmonary blood circulation is from the heart to the lungs and back to the heart. Every time you breathe the pulmonary circulation carries the blood to the lungs and exchanges carbon dioxide for oxygen.

2. The general or systemic blood circulation is from the heart to the entire body. The impure blood is received by the right atrium (auricle) from the vena cava. The impure blood passes through a valve into the right ventricle. From the right ventricle the impure blood goes through the pulmonary artery and to the lungs to be purified. After the blood is purified it is received by the left atrium (auricle) through the pulmonary vein. From the left atrium the pure blood passes another valve and into the left ventricle. From here the pure blood is taken by the aorta to all parts of the body.

3. By now you should have a better understanding of the blood and how it circulates. Study the drawing to get a better understanding of how the blood circulates.

4. The next reading will be about the arteries and veins of the head, face, neck and arms. If you need any further explanation, consult with the instructor or tutor.



Blood Circulations

← Pulmonary Circulation

⇐ General or Systemic Circulation

Find The Answers

1. The pulmonary circulation is from the heart to the;

   A. lungs and back to the heart.
   B. to the body.
   C. to the head, face and neck.

2. The word in paragraph 2 which means "not clean" is _____.

3. The words "passes through a valve" in paragraph 2 refer to

   _____.

4. The story does not say so, but it makes you think that;

   A. The circulation is not very important.
   B. The circulatory system is very important.
   C. The pulmonary artery carries pure blood.

5. The pulmonary vein carries pure blood.

   Yes No Does not say

6. On the whole this story is about;

   A. How the pulmonary vein carries impure blood.
   B. The pulmonary and systemic circulation.
   C. The pulmonary artery.

7. The vena cava delivers the impure blood to the;

   A. Right ventricle
   B. Left atrium
   C. Right atrium

True or False

_____1. There are two systems of blood circulation.

_____2. The pulmonary circulation takes the blood from the heart to the body.

_____3. Another name for atrium is auricle.

_____4. The blood eliminates carbon dioxide and picks up oxygen in the lungs.

_____5. The pulmonary artery takes impure blood from the heart to the lungs.

_____6. The pulmonary vein carries pure blood from the lungs to the heart.

_____7. Pure blood is pumped by the righ auricle and right ventricle.

_____8. Another name for the general circulation is systemic.

_____9. The general or systemic circulation carries the blood to the lungs.

____10. The pure blood is taken from the heart to the body by the aorta.

Fill in the blanks

g__ne__al

s__s__e__ic

pu__m__n__ry

v__i__

a__t__ry

i__p__r__

a__r__a

c__r__ul__ti__n

b__o__d

a__r__cl__

__ur__fi__d

ve__tr__cle

Use the words from the following list to fill in the blanks.

systemic	general
aorta	
pulmonary	
vein	
artery	

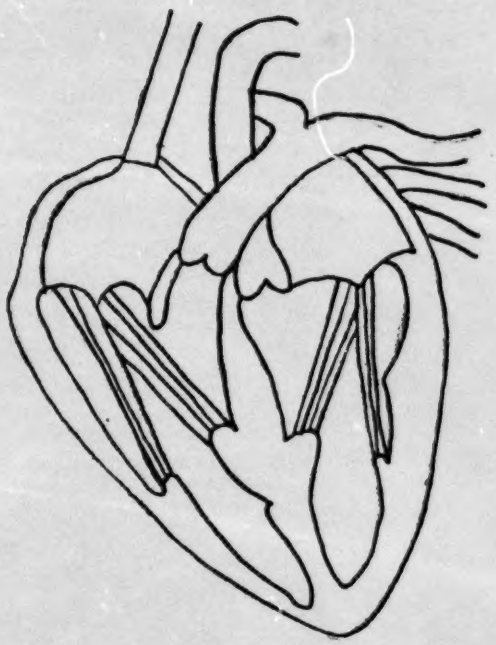
1. The systemic circulation is also called the _____ circulation.

2. The pulmonary _____carries impure blood.

3. The _____takes the pure blood to all parts of the body.

4. The _____circulation takes the pure blood from the heart to the body and then carries the impure blood back to the heart.

5. The _____ _____carries pure blood from the lungs to the heart.



Use the following drawing and trace the two types of blood circulation. Identify all chambers, arteries and veins.

Instructions:

In the following information sheet you will read about the location of the arteries and veins of the head, face, neck and arms. Be sure to study the information and drawing carefully so you will learn the names and locations. There is also a vocabulary list that will help you understand the information better.

Instrucciones:

En la siguiente página de información vas a leer de las locaciones de las arterias y venas de la cabeza, cara, cuello y brazos. Estudia la información y dibujos cuidadosamente para que aprendas los nombres y locaciones. También hay una lista de vocabulario que te ayudará a entender la información mejor.

Vocabulary

Carotid - artery that supplies the head, face and neck.
Carótida - arteria que mantiene la cabeza, cara y cuello.

Jugular - returns blood from the head, face and neck to the heart.
Yugular - devuelve la sangre de la cabeza, cara y cuello al corazón.

Remember the following questions as you read the information.
Recuerda las siguiente preguntas a leer la información.

1. What are the carotid arteries?
   ¿Qué son las arterias carótidas?

2. What are the jugular veins?
   ¿Qué son las venas yugulares?

3. How many divisions are there to the carotid artery?
   ¿Cuántas divisiones hay en la arteria carótida?

Arteries and Veins

1. In the previous reading you read about the functions and structure of the circulatory system. In this reading you will read about the location of the arteries and veins of the head, face, neck and arms. One thing that you must remember is that the veins are located parallel to the arteries. That is, they are found next to the arteries and therefore are given the same name.

2. The main source of blood supply for the head, face and neck are the common carotid arteries. They are on either side of the neck and have two divisions. The divisions are the internal and external. The main veins are also located here except the name is jugular vein. Thus, you have the internal and external carotid artery and the internal and external jugular vein. This is the only time that they have different names. Now, do you remember what arteries and veins do? Arteries carry pure blood and veins carry impure blood.

3. As mentioned before the carotid artery has two divisions. The internal carotid supplies the brain, eye sockets, eyelids and forehead. The external carotid artery is of more interest to you because this artery is affected by massage.

4. The external carotid has five subdivisions. The external maxillary supplies the lower part of the face, mouth and nose. Its branches are; Submental (chin and lower lip), Inferior labial (lower lip), Angular (nose) and Superior labial (upper lip, septum and wing of nose).

5. The superficial temporal artery supplies the muscles, skin and scalp to front, side and top of head. Its branches are; frontal (forehead), parietal (crown and side of head), transverse facial (masseter), middle temporal (temple and eyelids) and anterior auricular (anterior of ear).

6. The occipital artery supplies the scalp and back of the head up to the crown. The branch called sterno-cleido-mastoid supplies the sterno-cleido-mastoid muscle.

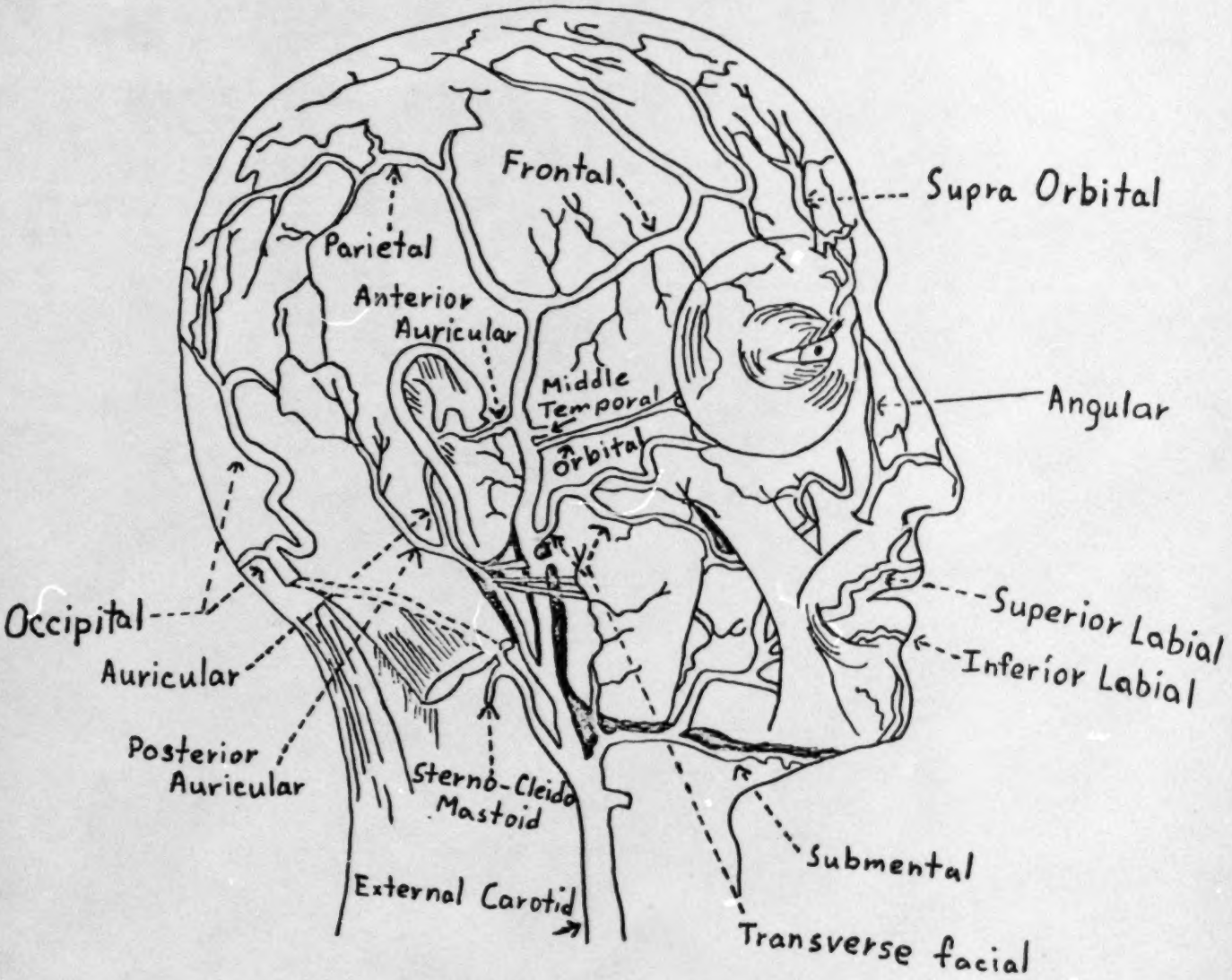
7. The posterior auricular artery supplies the scalp, back and above the ear. The branch which supplies the skin in back of the ear is called auricular.

8. The ophthalmic artery starts from the internal carotid and divides into supra-orbital which supplies the eye socket, eyelids and upper eye muscles. The frontal artery is an end branch of the ophthalmic artery.

9. The arteries of the arms are called ulner and radial. The ulner and its branches supply the little finger side of the arm and the palm. The radial artery and its branches supply the thumb side of the arm and the back of the hand. See the drawing to learn the branches of these arteries.

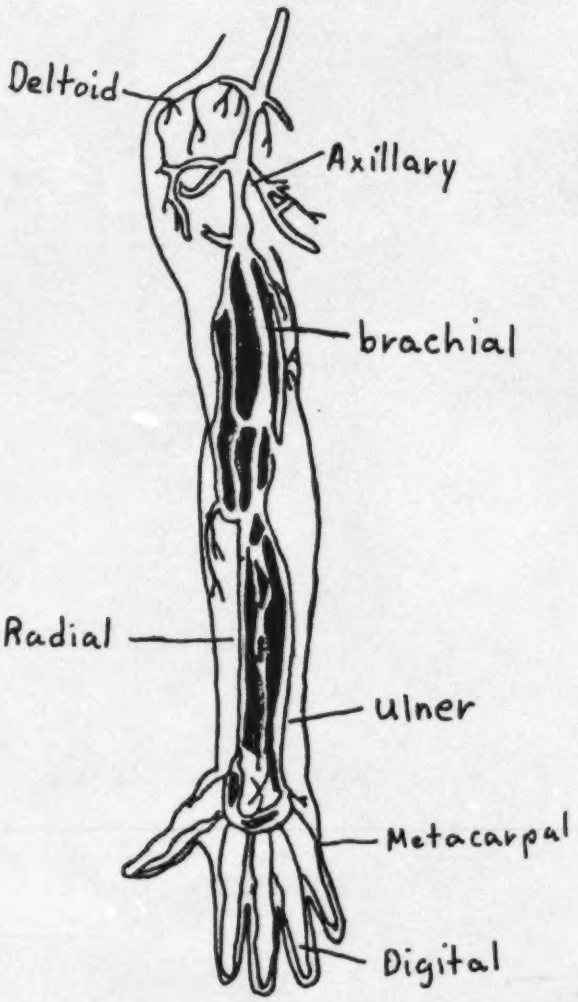
10. The veins of the arms, hands, face, head and neck have the same name as the arteries. The only exceptions are the internal and external carotid and the internal and external jugular.

11. Be sure to study the drawing so that you can learn the location of the arteries and veins. The next reading will be about the lymph-vascular system.



Arteries of the Head, Face and Neck

Arteries of the Arm and Hand



Find The Answers

1. The external carotid artery has _____divisions.

   A. Three
   B. Six
   C. Four
   D. Two

2. The word in paragraph one which means "where you can find it" is _____.

3. The words "main source" in paragraph 2 refer to _____ _____.

4. The story does not say so, but it makes you think that;

   A. The external carotid and jugular are affected by massage.
   B. The inferior labial is located on the upper lip.
   C. The arteries are more important than the veins.

5. The two divisions of the carotid artery are;

   A. Pure and impure.
   B. Superior and inferior.
   C. Internal and external.

6. On the whole, this story is about;

   A. The muscles of the head, face, neck and arms.
   B. The capillaries of the head, face and neck.
   C. The arteries and veins of the head, face, neck and arms.

7. The external maxillary supplies the

   A. Sterno-cleido-mastoid.
   B. Lower part of face, mouth and nose.
   C. Little finger side of arm.

Circle the correct answer.

1. The veins are located parallel to the;

   A. Capillaries B. Jugular C. Arteries

2. The two divisions of the carotid artery are called;

   A. Superior-inferior B. Internal-external C. Anterior-posterior

3. How many subdivisions are there in the external carotid?

   A. Two B. Four C. Five

4. The main source of blood for the head, face and neck is the

   A. Jugular B. Carotid C. Capillary

5. The lower region of the face, mouth and nose are supplied by

   A. External maxillary B. Frontal C. Auricular

6. The skin under the ear is supplied by the

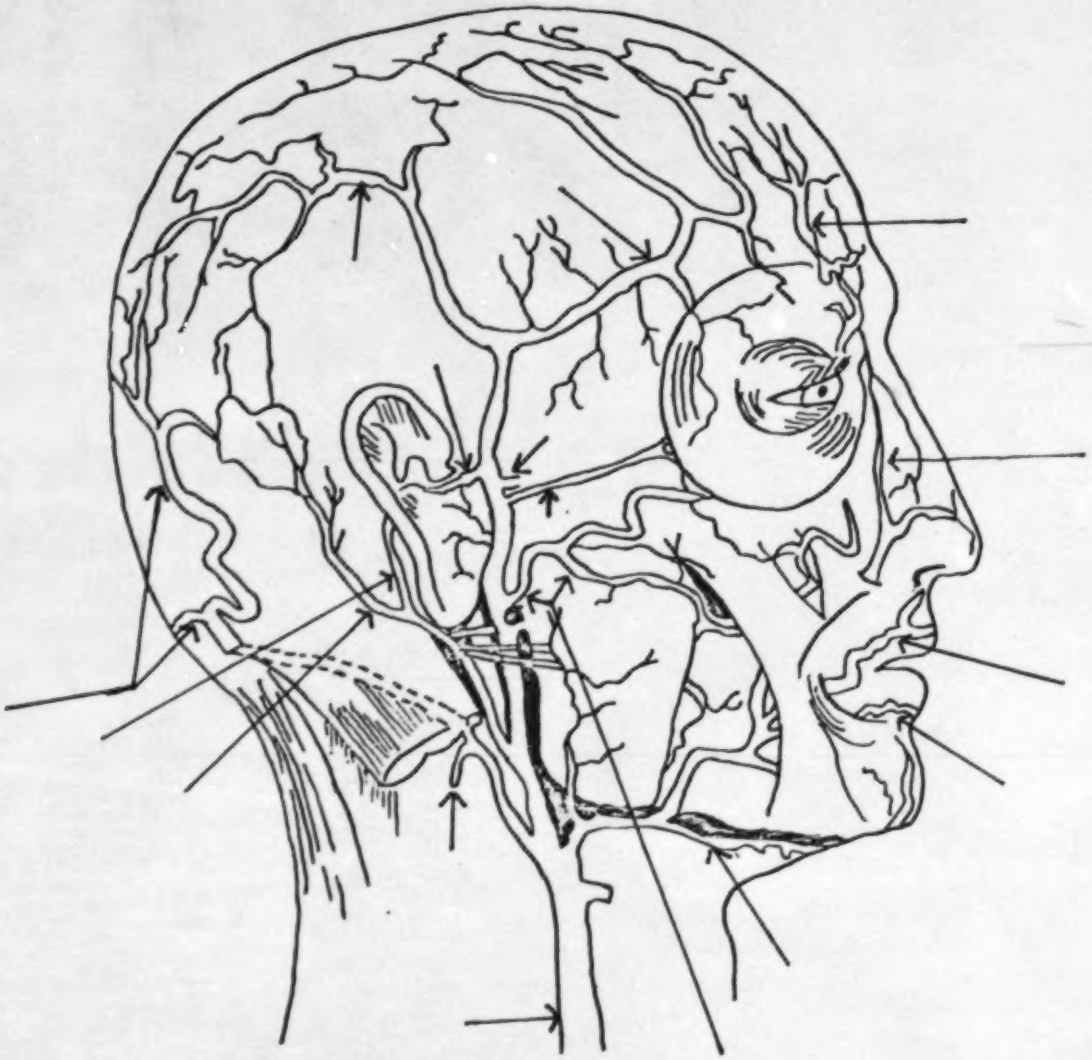
   A. Auricular B. Labial C. Transverse

7. The artery that supplies the little finger side of the arm is called the;

   A. Radial B. Ulner C. Capillary

8. The artery that supplies the thumb side of the arm is called the;

   A. Radial B. Ulner Carotid



Use the following names and locate each artery. Place the name by the arrow pointing to the artery.

Frontal
Parietal
Anterior Auricular
Middle Temporal
Orbital
Sterno-cleido-mastoid
Occipital
Auricular
Posterior Auricular
External carotid
Transverse facial
Submental
Inferior labial
Superior labial
Angular
Supra Orbital

11

Fill in the blanks

1. The submental, inferior labial, superior labial and the angular are branches of the _____ _____artery.

2. The frontal, parietal, transverse, middle temporal and anterior auricular are branches of the _____ _____artery.

3. The auricular is a branch of the _____ _____ artery.

4. The supra-orbital is a branch of the _____artery.

5. The sterno-cleido-mastoid is a branch of the _____ artery.

6. The _____artery supplies the little finger side of the arm.

7. The _____artery supplies the thumb side of the arm.

Match the following:

_____1. Submental	A. eye socket, eyelids, upper muscles.
_____2. Inferior labial	B. Forehead
_____3. Superior labial	C. Skin under ear.
_____4. Angular	D. Chin and lower lip.
_____5. Frontal	E. Anterior of ear.
_____6. Parietal	F. Sterno-cleido-mastoid.
_____7. Transverse	G. Lower lip.
_____8. Middle temporal	H. Temple and eyelids.
_____9. Anterior auricular	I. Upper lip, septum and wing of nose.
_____10. Sterno-cleido-mastoid	J. Nose
_____11. Auricular	K. Crown and side of head.
_____12. Supra-orbital	L. Masseter

Instructions:

In the following information sheet you will read about the lymph vascular system. If you study the following vocabulary list carefully you should be able to understand the information better.

Instrucciones:

En la siguiente página de información vas a leer del sistema linfático. Si estudias la siguiente lista de vocabulario cuidadosamente podrás entender la información mejor.

Vocabulary

Lymph - liquid that circulates through the lymph-vascular system.
Linfa - líquido que circula por el sistema linfático.

Lymphatic - vessels that carry lymph.
Linfático - vasos que circulan linfa.

Remember the following questions as you read the information.
Recuerda las siguiente preguntas a leer la información.

1. What does the lymph-vascular system consist of?
   ¿De qué consiste el sistema linfático?

2. What are the functions of lymph?
   ¿Qué son las funciones de linfa?

Lymph-Vascular

1. The lymph-vascular system works along with the veins. It contains lymph spaces, lymph vessels, lymph glands and lacteals. The lymph spaces are channels between the walls of the capillaries and body cells. The lymph vessels are tiny vessels that carry lymph and are also called lymphatics.

2. The lymph glands are organs located in the route of the lymph vessels. When the lymph passes through the lymph glands the bacteria is removed. Lacteals are vessels that carry chyle. Chyle is a white milky substance found in the small intestines.

3. By now you are probably wondering what lymph is. Lymph is a watery, colorless fluid that circulates through the lymph-vascular system. Lymph also contains white corpuscles. The functions of lymph are:
   1. Supply parts of the body not reached by the blood.
   2. Carry nourishment from blood to cells.
   3. Remove waste from cells.
   4. Carry a constant interchange with blood.
   5. Fight infection with lymphocytes.

4. Now that you have finished this module you should be familiar with the circulatory system. If you are not sure of something covered in this module be sure to ask the instructor, or review.

Find The Answers

1. The lymph-vascular system works along with the

   A. Lymph
   B. Blood
   C. Capillaries
   D. Veins

2. The word in paragraph 1 which means "small" is _____.

3. The words "organs located in the route" in paragraph 2 refer to _____ _____.

4. The story does not say so, but it makes you think that;

   A. The lymph-vascular system protects the body be removing bacteria.
   B. The lymph-vascular system supplies the head with blood.
   C. Both A and B.

5. Lacteals are vessels that carry chyle.

   Yes No Does not say

6. On the whole, this story is about;

   A. Lymph
   B. Blood
   C. Lymph-vascular system.

7. The watery, colorless fluid that circulates through the lymph-vascular system is called;

   A. Lacteals
   B. Chyle
   C. Lymph

Answer the following:

1. What does the lymph-vascular system contain?

2. What are lymph spaces?

3. What are lymph glands?

4. What is lymph?

5. What are the functions of lymph?
   1.
   2.
   3.
   4.
   5.

Circle the correct answer

1. The lymph-vascular system works along with the

   A. Arteries B. Capillaries C. Veins

2. The parts of the body not reached by the blood are nourished by

   A. Lymph B. Juices C. Blood

3. Lymph also contains

   A. White corpuscles B. Red corpuscles C. Hemoglobin

4. Lymph has _____functions.

   A. Four B. Five C. Six

5. Organs located in the route of lymph vessels are called;

   A. Chyle B. Lacteals C. Lymph glands

6. Vessels that carry chyle are;

   A. Lacteals B. Arteries C. Veins

7. The lymph-vascular system contains lymphatic (vessels), lymph-spaces, lymph glands and;

   A. Arteries B. Lacteals C. Veins

Circle the correctly spelled word.

lymph	lussen	locat
intestens	vessels	shipp
corperel	corpuscles	cerculate
energie	sapport	nourishment
vascular	masculer	suppaly
interseccion	interchange	intercep
eritrocites	lymfocytes	lymphocytes
leas	lacteals	lucocite
chyle	cheet	chet
convay	channels	comunacation

POST TEST

1. What are the five functions of lymph?

2. What is the composition of the lymph-vascular system?

3. What are the five subdivisions of the external carotid artery?

4. What are the arteries of the arm and hand and which side does each supply?

5. Explain the pulmonary circulation.

6. Explain the systemic circulation.

7. What is the function of red corpuscles?

8. What are the colors of the blood in the arteries, veins?

9. What is the heart?

10. What are arteries, capillaries and veins?

11. What is angiology?

12. What are the functions of the blood-vascular and lymph-vascular systems?

For further information on the Circulatory (Vascular) System, the following references are available at the Learning Resource Center.

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Vocabulary	Vocabulario
adult	adulto
angiology	angiología
artery	arteria
auricle	aurícula
blood	sangre
capillary	capilar
carotid	carótida
chamber	cámara
chest	pecho
circulatory	circulatorio
cone	cono
corpuscle	corpúsculo
division	división
eliminate	eliminar
entire	entero
external	externo
function	función
general	general
heart	corazón
hemoglobin	hemoglobina
impure	impuro
inferior	inferior
jugular	yugular
locate	localizar
lymph	linfa
membrane	membrano
pericardium	pericardio

Vocabulary	Vocabulario
plasma	plasma
pulmonary	pulmonar
pump	bomba
purify	purificar
regulate	regular
review	repasar
route	ruta
shape	hechura
structure	estructura
substance	substancia
superior	superior
system	sistema
systemic	sistemático
technical	técnico
tiny	pequeño
valve	válvula
vascular	vascular
vein	vena
ventricle	ventrical
vessel	vaso
wall	pared